



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/664,043	09/17/2003	Seok-il Yoon	Q75668	2595
23373	7590	05/09/2005	EXAMINER	
SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037			THOMPSON, TIMOTHY J	
			ART UNIT	PAPER NUMBER
			2873	

DATE MAILED: 05/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

H.A

Office Action Summary	Application No. 10/664,043	Applicant(s) YOON ET AL.	
	Examiner Timothy J. Thompson	Art Unit 2873	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-6, 8-13, 15, 16 and 18-20 is/are rejected.
- 7) ☒ Claim(s) 7, 14 and 17 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>09/2003</u> . | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-6, 8, -13, 15, 16, 18-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Braat(U.S. Pat. No. 5,016,994).

Regarding claim 1, Braat discloses; a spherical lens(fig 3, S4-S5); and an aspherical lens(fig 3, S3-S4) formed of plastic on at least one surface of the spherical lens(col 5, lines 1-15).

Regarding claim 2, Braat discloses the aspherical lens is formed on at least one of an incidence surface and an emission surface of the spherical lens(fig 3).

Regarding claim 3, Braat discloses the spherical lens is formed of glass(col 5, lines 1-15).

Regarding claim 4, Braat discloses the spherical lens has a refractive index within a range of 1.45 - 1.95(fig 3 and the table associated with it).

Regarding claim 5, Braat discloses the aspherical lens has a refractive index within a range of 1.45 - 1.8(fig 3 and the table associated with it).

Regarding claim 6, Braat discloses the spherical lens and the aspherical lens have different refractive indexes(fig 3 and the table associated with it).

Regarding claim 8, Braat discloses a projection optical system having a hybrid lens(fig 3, S3-S6) that is positioned along an optical path between a fluorescent surface(fig 3, (FP) and a screen(fig 1, 10) onto which light emitted from the fluorescent surface is projected to form an image and includes a spherical lens(fig 3, S4-S5) and an aspherical lens(fig 3, S3-S4) formed of plastic on at least one surface of the spherical lens(col 5, lines 1-15).

Regarding claim 9, Braat discloses the aspherical lens is formed on at least one of an incidence surface and an emission surface of the spherical lens(fig 3).

Regarding claim 10, Braat discloses the spherical lens is formed of glass(col 5, lines 1-15).

Regarding claim 11, Braat discloses the spherical lens has a refractive index within a range of 1.45 - 1.95(fig 3 and the table associated with it).

Regarding claim 12, Braat discloses the aspherical lens has a refractive index within a range of 1.45 - 1.8(fig 3 and the table associated with it).

Regarding claim 13, Braat discloses the spherical lens and the aspherical lens have different refractive indexes(fig 3 and the table associated with it).

Regarding claim 15, Braat discloses a protective lens that covers the entire fluorescent surface(fig 3, L4).

Regarding claim 16, Braat discloses a meniscus lens that is positioned along an optical path between the protective lens and the hybrid lens(fig 3, S5-S6).

Regarding claim 18, Braat discloses wherein the hybrid lens is a correction power lens(fig 3 and the table associated with it).

Regarding claim 19, Braat discloses at least one correction power lens(fig 3, L4) that is positioned between the hybrid lens(fig 3, S3-S5) and the fluorescent surface(fig 3, FP), and refracts incident light.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Braat(U.S. Pat. No. 5,016,994) as applied to claim19 above, and further in view of Uzawa et al.(U.S. Pat. No. 5,572,277).

Regarding claim 20, Braat does not disclose the correction power lens has an aspherical surface. However, Uzawa et al. discloses an aspheric surface on a lens in the third lens unit as well as any other lens surface in the lens system(col 8, lines 27-35). It would have been obvious to one skilled in the art at the time of the invention to place an aspheric surface on a lens in the third lens unit as well as any other lens surface in the lens system as shown by Uzawa et al., in the lens system of Braat, since as shown by Uzawa et al. aspheric surfaces are commonly placed on any lens surface within a lens system for correcting aberrations.

Allowable Subject Matter

Art Unit: 2873

Claims 7, 14, 17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. With the allowable features being the condition formula pertaining to the lens surface of the aspherical lens, the cooling liquid is positioned between the protective lens and the meniscus lens.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy J. Thompson whose telephone number is (571) 272-2342. If the examiner can not be reached his supervisor, Georgia Epps, can be reached on (571) 272-2328.

T.J.T.

5/5/05

A handwritten signature in black ink that reads "Timothy J. Thompson". The signature is written in a cursive, flowing style with a large initial 'T'.

**TIMOTHY THOMPSON
PRIMARY EXAMINER**